REMARKS

By this amendment, Applicants have amended the claims to further define their invention. In particular, Applicants have canceled claims 18-24 without prejudice or disclaimer and added new claims 25-27. Claims 25-27 are supported by, e.g., Figures 1-4(b) and the description thereof in Applicants' specification.

Claims 18 and 22 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over U.S. Patent No. 5,911,222 to Lawrence et al. in view of U.S. Patent No. 5,002,541 to Conkling et al. Applicants traverse this rejection and request reconsideration thereof.

The present invention relates to an automatic urine disposal device. According to the present invention, the urine receptacle of the device comprises a substantially rectangular, non-breathable outer sheet, a urine absorbent material accommodated in the outer sheet, and an a hard breathable and liquid-permeable, non-woven fabric top sheet disposed on the surface of the urine absorbent material.

According to the present invention, the combination of components recited in claim 25 can bring about the following effects described in the original specification, which are not taught in the references cited.

The present invention can increase the percentage of urine collection by the urine receptacle's urine absorbent material and reduce the amount of urine which remains in the urine receptacle. With the increase in the percentage of urine collection, a small capacity vacuum pump with a low power can drain urine from the urine absorbent material. Therefore, it is possible to drain urine from the urine receptacle without discomfort to the wearer, and the device can be compact and lightweight.

Since the device can be compact and lightweight, if it is sued as a portable automatic urine disposal device, it will be most efficient. Furthermore, because the vacuum pump does not unnecessarily absorb air, noise is minimal and urine can be quietly drained without bothering other patients in the room at night.

In addition, since the vacuum pump is driven only when the urine is detected, it is possible to keep noise at a minimum.

The Lawrence et al. '222 and Conkling et al. patents do not disclose the automatic urine disposal device presently claimed.

The Lawrence et al. '222 patent discloses a liquid removal system having an interface device and a vacuum source. The interface device has a porous membrane with an entrance zone on one side. Specifically, the interface device is provided with a top or body contact surface 17 and a bottom or external surface 18. The side of the interface device opposite the body surface side 17 is a plastic shell 28. The interface device further comprises an entrance zone which may be filled with a fibrous foam or other type filling material 24. The interface device is provided with a coverstock material 21 over body contact surface 17. The coverstock material is preferably hydrophobic or treated so that it is rendered hydrophobic. A preferred material for the coverstock is a non-woven polymeric fibrous material such as polypropylene which is hydrophobic yet capable of breathing. The coverstock is disclosed to be capable of repelling moisture by retaining the capacity to "breathe" so that there is a reduced risk of irritation to the skin. See, column 5, lines 31-44 of Lawrence '222.

Thus, while the cover stock material of Lawrence et al. '222 retains the capacity to "breathe," the top sheet used in the present invention is hard breathable

and liquid-permeable. The top sheet, together with the outer sheet, an inside surface of which is water-repellant, keeps the urine absorbent material highly airtight so that the urine can be easily drained by a vacuum pump. In fact, a vacuum even at low power can achieve higher urine collection using the top sheet of the present invention than a vacuum pump at a high power without such a top sheet. See, Figure 6 in the description at page 11, line 10 to page 12, line 14 of the substitute specification. A hard breathable top sheet that (with the outer sheet) keeps the urine absorbent material highly airtight and the unexpectedly advantageous results achieved thereby are neither disclosed nor suggested by Lawrence et al. '222.

The outstanding Office Action alleges that the final Office Action mailed May 22, 2007 responded to Applicants' previous arguments. However, that action merely alleged that the feature "that the outer sheet keeps the urine absorbent material highly air-tight along wit the top sheet" is not recited in the claims. However, the claims now in the application (as well as some previous versions thereof) recite a top sheet formed as a hard breathable and liquid-permeable non-woven fabric. It is submitted the Lawrence et al. '222 patent teaches away from such a top sheet for the reasons noted above.

Moreover, as admitted by the Examiner, the Lawrence et al. '222 patent does not teach other features of the present invention, including the combination of the urine receptacle with a urine sensor provided in the first drainage tube.

The Conkling et al. patent discloses a method and device for removing and collecting urine. The collecting vessel appears to be designed to be warn loosely to limit contact with the skin of the individual. See, e.g., column 5, lines 54-56 of Conkling et al. In any event, the collecting vessel appears to be of a quite different construction of the interface device of Lawrence et al. '222 and the urine receptacle

presently claimed. Accordingly, it is submitted there would have been no motivation to be combine the teachings of Conkling et al. with those of Lawrence et al.

Thus, it is submitted the combination features set forth in claim 25 is neither disclosed by nor rendered obvious by Lawrence '222 and Conkling et al.

Accordingly, claims 25-27 are patentable over the proposed combination of references.

Claims 19-21, 23 and 24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrence et al. in view of Conkling et al. and further in view of International Publication No. WO 96/08223 to Reed et al. Applicants traverse this rejection and request reconsideration thereof, at least insofar as it applies to the claims presently in the application.

The Reed et al. publication discloses a spyrosorbent wound dressing that exhibits differential moisture vapor transport rate properties. In particular, the sheet-formed composite dressing has a moisture vapor transport rate of greater than 2000 $g/m^2/24$ hours when dry, and a wet to dry moisture vapor transport rate ratio in the range of about 1.5 to 10.

In the first place, the Reed et al. publication relates to a wound dressing, while the Lawrence et al. and Conkling et al. patents relate to urine removal systems. The Lawrence et al. patent discloses that the coverstock is capable of repelling moisture but retaining the capacity to "breathe" so that there is a reduced risk of irritation to the skin. The problems associated with a wound dressing which led the inventors in Reed et al. to make the wound dressing spyrosorbent are not disclosed to the be same problems associated with the urine removal system. Accordingly, it is submitted there would have been no motivation to use the material of Reed et al .in the device with Lawrence et al.

For the foregoing reasons, it is submitted there would have been no apparent reason to use the material of Reed et al. in the device of Lawrence. Moreover, it is submitted even the combined teachings of Lawrence et al., Conkling et al. and Reed et al. would not have rendered obvious the subject material set forth in claims 19-21, 23 and 24.

For the foregoing reasons, favorable reconsideration and allowance of all of the claims now in the application are requested

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 503.43626X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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